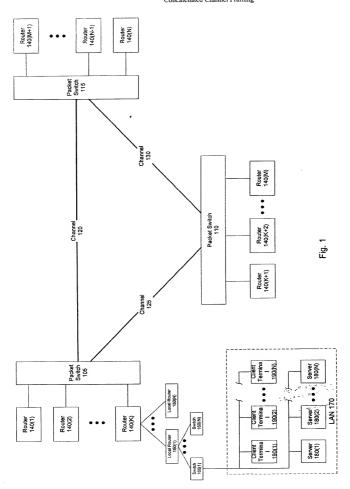
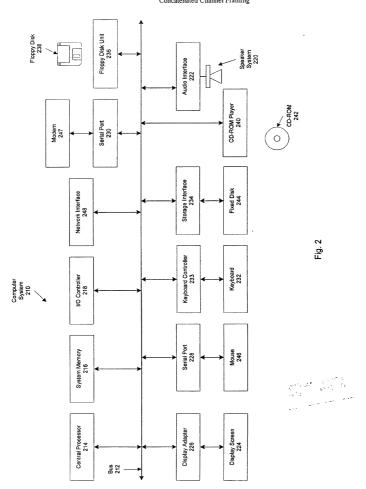
Title:

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273 First Inventor: Rajendra R. Damle Frame Structure and Method for Wavelength Concatenated Channel Framing



Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R. Damle
Title: Frame Structure and Method for Wavelength
Concatenated Channel Framing



Atterney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R. Damle
Title: Frame Structure and Method for Wavelength
Concatenated Channel Framing

345(N) 340(1) 340(N) 345(1) đ Optical Receiver 350(N) Receiver 350(1) Optical Transmitter 335(1) Optical Transmitter 335(N) Optical Framing Unit 330 Framer Transmit Section 325 Framer Receive Section 355 Transmit Section 327 Outbound Traffic Manager 320 System Processor 370 Receive Section 362 Inbound Traffic Manager 360 Fig. 3 Receive Ports 365(1)-(N) Transmit Ports 315(1)-(N) Switch Fabric 310 Routing Unit Fabric Port 305(1) Fabric Port 305(N)

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor. Rajendra R. Damle Title: Frame Structure and Method for Wavelength Concatenated Channel Framing Sub-Channel Identifier 415 SOF 405 Primary Super-Channe 1 - 41 Frame Counter 420 UAB 425 PSC Error Condition Flags 435 PSC LSP Switch Byte 440 Sub-Channel Information 403 PSC Sub-Channel Bitmap 430 Primary Super-Channel Information 401 Alternate Super-Channel Identifier 445 Alternate Super-Channel Information Sub-Channel Information 404 ASC Sub-Channel Bitmap 450 Fig. 4 Unused Bytes 465 ASC LSP Enable Flag , 460 ASC Error Condition Flags 455 CRC32 470 Frame Structure Payload 480

m - r ∞ ♣ o

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength Concatenated Channel Framing

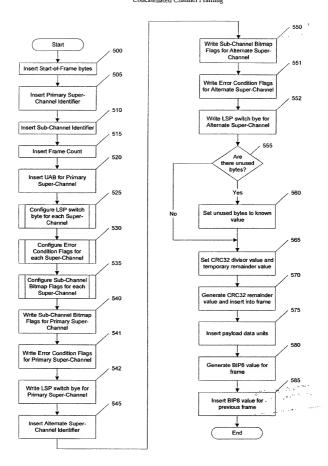


Fig. 5

First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength

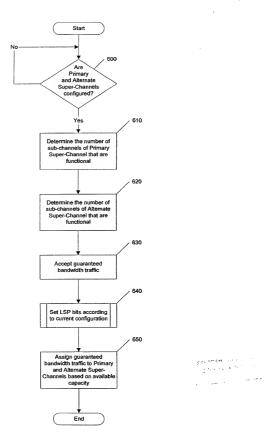


Fig. 6

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R. Damle
Title: Frame Structure and Method for Wavelength
Concatenated Channel Framing

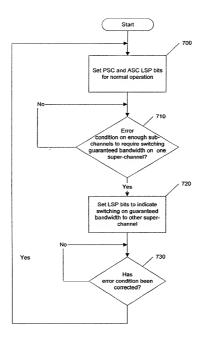


Fig. 7

Title: Frame Structure and Method for Wavelength Concatenated Channel Framing Start 800 Force Sub-Channel to switch? 805 810 Yes Set Forced/Manual Switch Clear Forced/Manual Switch Flag Flag 815 BER unacceptably No high? 820 825 Yes Set BER Flag Clear BER Flag 830 ✓LOS occurred? 835 840 Yes Set LOS Flag Clear LOS Flag 845 ✓LOF occurred? 855 850 Yes Set LOF Flag Clear LOF Flag 860 CRC error? No 865 870 Yes Set CRC Error Flag Clear CRC Error Flag <RDI received? Yes Set RDI Flag Clear RDI Flag End

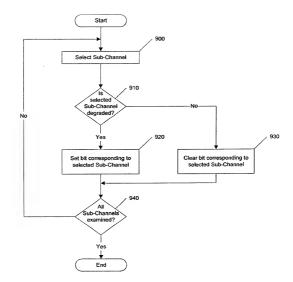
Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273

Rajendra R Damle

First Inventor:

Fig. 8

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273 First Inventor: Rajendra R. Damle Title. Frame Structure and Method for Wavelength



Barrenser in the second

Fig. 9

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R, Damle

Title: Frame Structure and Method for Wavelength

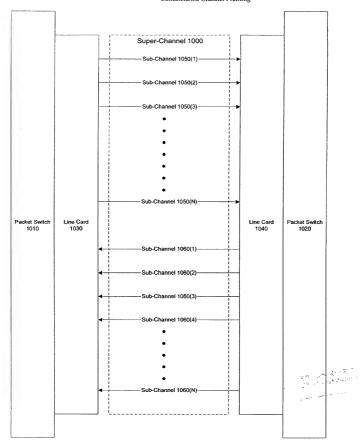


Fig. 10

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273 F. st Inventor: Rajendra R. Damle Frame Structure and Method for Wavelength Title:

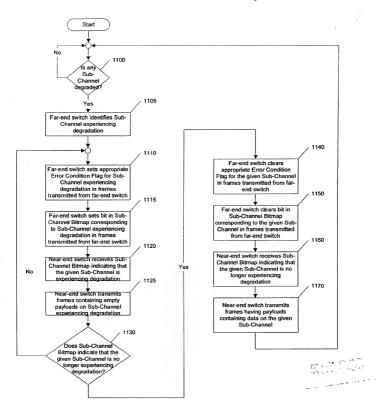


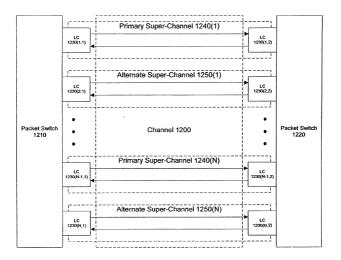
Fig. 11

Attorney Docket No. First Inventor: Title:

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273

Rajendra R. Damle

Frame Structure and Method for Wavelength Concatenated Channel Framing



1 - 4 - 5 m mg ma , m 13 - 4 - 2 - m mg ma , m m m m m m m m m m m m

Fig. 12

Concatenated Channel Framing Start No 1300 Has far-end ritch detected errors requiring use of Alternate Super Channel? Yes 1310 Far-end switch indicates to near-end switch that the near-end switch's PSC transmissions are experiencing errors and will not be used 1325 1320 Near-end switch transmits Near-end switch transmits frames having best-effort frames having guaranteed traffic on ASC traffic on PSC 1327 Yes 1330 Far-end switch receives Far-end switch receives frames transmitted by nearframes transmitted by nearend switch on ASC end switch on PSC 1340 Is near-end switch's transmit PSC 1350 still experiencing errors? Far-end switch indicates to near-end switch that the near-end switch's PSC transmissions are no longer experiencing errors and can Security of the once again be used 1360 والمتعروض والمتعمد المداليين Near-end switch resumes transmitting guaranteed bandwidth traffic on PSC 1370 Far-end switch receives frames transmitted by nearend switch on PSC

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273

Rajendra R. Damle

Frame Structure and Method for Wavelength

First Inventor:

Title:

Fig. 13

First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength
Concatenated Channel Framing

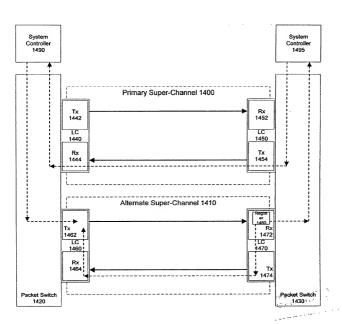


Fig. 14

bitmap

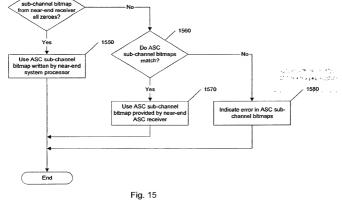
transmitter

receiver

transmitter

Is ASC

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273 First Inventor: Rajendra R. Damle Title: Frame Structure and Method for Wavelength Concatenated Channel Framing Start 1520 1500 Far-end system processor ASC far-end receiver reads ASC sub-channel provides ASC sub-channel bitmap to ASC far-end 1505 transmitter 1525 Far-end system processor writes ASC sub-channel Send ASC sub-channel bitmap into far-end PSC bitmap to ASC near-end receiver 1510 Near-end system processor reads ASC sub-channel bitmap from near-end PSC 1515 1530 Near-end system processor Near-end ASC receiver writes ASC sub-channel provides ASC sub-channel bitmap into near-end PSC bitmap into near-end ASC transmitter 1540



Attorney Docket No.: M-9927-1P US / Serial No 10/086,273 First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength Concatenated Channel Framing



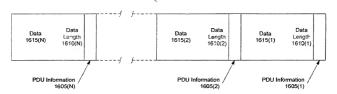


Fig. 16A

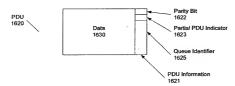


Fig. 16B

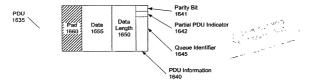
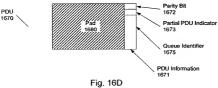


Fig. 16C



First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength

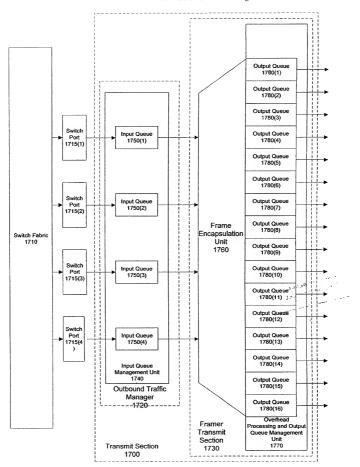


Fig. 17

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor. Rajendra R. Damle

Title: Frame Structure and Method for Wavelength Concatenated Channel Framing

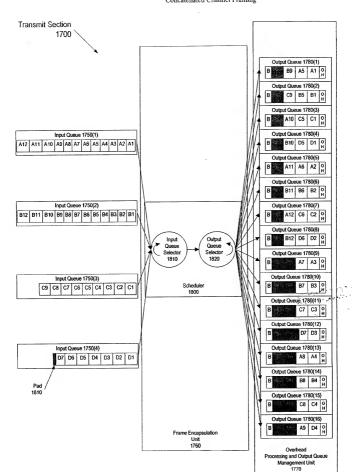


Fig. 18

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R Damle
Title: Frame Structure and Method for Wavelength

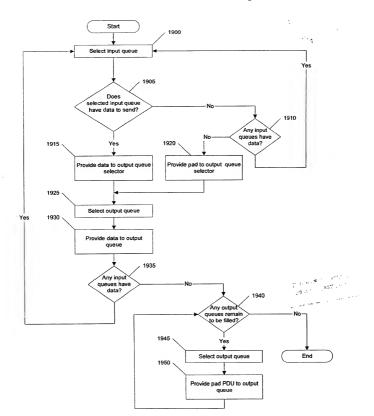


Fig. 19

First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength

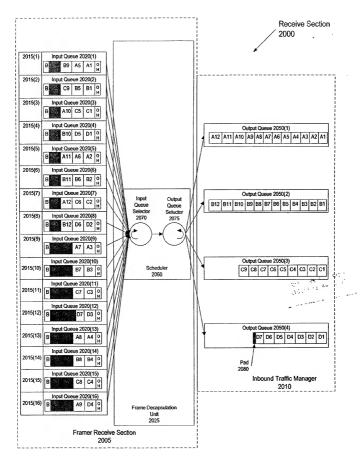


Fig. 20

First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength

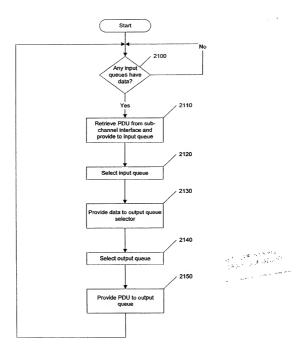
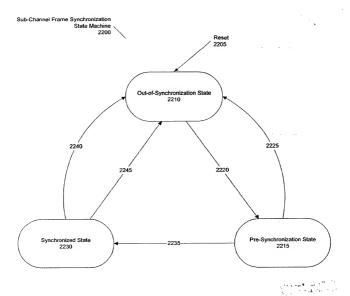


Fig. 21

Attorney Docket No.: M-9927-1P US / Serial No. 10/086,273
First Inventor: Rajendra R. Damle
Title: Frame Structure and Method for Wavelength

Concatenated Channel Framing



was received to the party of the

Fig. 22

First Inventor: Rajendra R. Damle

Title: Frame Structure and Method for Wavelength

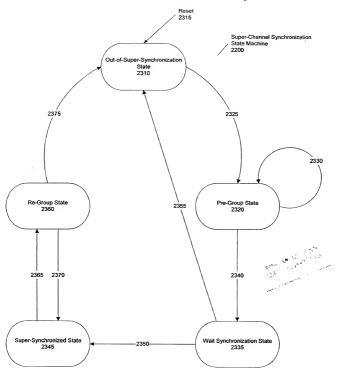


Fig. 23